

2nd to 19th, Portland and Louisville canal frozen over; 20th, canal open; 22d, navigation resumed to-day. *Alleghany*—Tarentum, Pa., ice broke up; Pittsburgh, 3d, river frozen over; 18th, river open for several miles above city; 19th, ice gorge broke about noon, sinking a number of canal boats and barges; 20th, 21st, 22d, river full of floating ice; 24th, little ice in river; 25th, river clear of ice; 28th, ice running all day; 29th river full of floating ice; 30th, heavy ice moving all day; 31st, ice nearly all out. *Monongahela*—Morgantown, 17th, ice gorged in river, carrying away portion of river gauge, water rose twelve feet in 30 minutes; 21st, heavy ice in river; 22d, river clear of ice; 23d, floating ice in river. Pittsburgh, 3d, river frozen over. *Buffalo Creek*—Wellsburg, West Va., 18th, ice run out, thawing rapidly. *Scioto River*—Columbus, 28th, ice broke up. *Tennessee River*—Chattanooga, 9th, two steamers sunk between Kingston and London by floating ice; 10th, river rising rapidly, gorge giving way above; 13th, river reached danger line; 14th, river rising rapidly and overflowing lower portions of city; 15th, river reached highest point, 38 feet above zero of gauge; 16th, river falling. *Roanoke River*—Weldon, N. C., 3d, 4th, full of floating ice; 5th, frozen over solid, which had not occurred before since 1857; 6th, river seems to have stopped flowing, no water in view, ice seems to be lying on the bed of the river; 7th, one or two small streams commenced to flow on top of the ice; 8th, ice broke up and began moving in immense quantities; 12th, river high and rising, channel clear, ice heaped near the shore; 13th, river overflowing banks and rising all day; 14th, still rising, about three inches during the day and twelve during the night; 15th, rose five inches during day. *Red Is and Creek*—Wytheville, Va., 12th, ice gorged, water overflowed the low ground, carrying away six cattle; in a short time gorge burst and tore out part of mill dam, carried off considerable material and excavated huge rocks, damage estimated at \$500; 11th, ice moved out of Barrett's dam during the night; 12th, water very high. *Rivanna River*—Broad Oak, Va., 22d, river clear of ice. *James River*—Dover Mines, Va., 14th, river clear of ice; 16th, canal open to navigation, having been closed by ice for twenty-one days. *Potomac River*—Ft. Whipple, Va., 1st, ice in river firm; 2d, river still frozen; off Ft. Foote, 3d, ice 12 in. thick. Georgetown, continued frozen during the month. *Patapsco*—Woodstock, Md., 9th, river open. Baltimore, 3d, harbor and basin covered with solid ice, navigation almost entirely suspended; 4th, several tug boats fast in the ice near Annapolis; schooner "Eastern Light" sunk off Hell Point, with 300 bushels of oysters, and schooner "Burning Hall" sunk near Highlands, the crews of both being compelled to make their escape on the floating ice; several oyster schooners fast in the ice and abandoned by the crews; 5th, fourteen tug boats and several oyster schooners ashore down the river. *Susquehanna*—Catawissa, Pa., north branch closed during month. *Hudson*—West Point, N. Y., 3rd, river completely frozen over; New York, 3rd, floating ice in river, causing many interruptions to travel; Sandy Hook, 3rd, bay full of floating ice. *Flushing Bay*—Flushing, N. Y., 31st, navigation still closed. *Narraganset Bay*—Newport, 3rd, ice forming in harbor. *Buzzards Bay*—New Bedford, Mass., 6th, harbor covered with ice; 28th, ice breaking up. *Vineyard Sound*—Wood's Holl, 3rd to 12th, ice in harbor; 13th, 25th, ice gorge in harbor. *Otta Queche River*—Woodstock, Vt., ice on river 19 inches thick. *Lake Superior*—Duluth, 14th, ice forming rapidly on surface of lake; 15th, lake frozen; 26th, ice breaking up, harbor full of floating ice. *Lake Geneva*—Bloomfield, Wis., 6th, ice sixteen inches thick. *Lake Michigan*—Grand Haven, 7th, miles of ice on lake outside of pier; 15th, in many places at the distance of half a mile from shore ice 30 to 35 feet deep, extending to the bottom of the lake; 16th, outlet made for the ice-bound vessels, through the force of the high east winds starting the ice. *Embarrass River*—Embarrass, Wis., 29th, ice on river 24 inches thick. *Grand River*—Grand Haven, 7th, river frozen over to a considerable distance from its mouth, ice extends nearly to the bottom; 15th, workmen trying to cut a channel at the mouth of river to liberate the ice-bound vessels. *Grand Traverse Bay*—Northport, Mich., 31st, no ice in bay. *Lake Erie*—Sandusky, 6th, teams came over ice from North Bass Island, distance twenty-four miles; ice in middle of lake reported 14 inches thick. Cleveland, 3rd, lake covered with ice as far as the eye could reach, 6th, lake still frozen; 7th, ice in lake broken; 21st, heavy ice on lake; 27th, ice solid; 29th, ice breaking up; 30th, ice driven ashore. *Cuyahoga River*—Cleveland, 21st, ice in river, 33 inches thick; 27th, ice breaking up. *Lake Champlain*—West Charlotte, Vt., 30th, lake mostly frozen over; 31st, floating ice in lake. Burlington, 10th, navigation closed; 29th, lake entirely frozen over; the records at this place show that the average date of closing, for the last sixty years, has been on January 29th.

Low Tides.—Indianola, Tex., 1st to 21st; Tybee Island, Ga., 12th; Baltimore, 4th and 5th, lowest tide on record.

TEMPERATURE OF WATER.

The temperatures of water, as observed in rivers and harbors, with average depth when observations were taken, are given in table on chart No. II. At Alpena, Buffalo, Cleveland, Escanaba, Grand Haven and Sandusky no observations were made on account of ice. At the following stations observations were only made on the dates named: at Burlington, from the 1st to 12th; Chicago, 24th to 31st; Detroit, 29th to 31st; Duluth, 1st to 14th and 27th to 31st; and at Marquette, 26th to 31st. Punta Rassa, Fla., (too late for table on chart,) max. 70°, min. 54°, average depth, 12 feet.

ATMOSPHERIC ELECTRICITY.

Thunder-storms.—Louisville, Ill., 28th; St. Meinrad, Ind., 28th; Bowling Green, Ky., 28th; Lebanon, Mo., 28th, Tarentum, Pa., 27th; McMinnville, Tenn., 28th; Thomasville, Ga., 12th; Pt. Pleasant, La., 11th, 27th; Okalooska, La., 7th; Franklin, N. C., 28th; Clarkesville, Tex., 27th; San Antonio, Corsicana and Castroville, Tex., 26th; Shreveport, La., 11th; St. Louis, 28th.

Telegraphic Communication interfered with by Atmospheric Electricity: Bismarck, Dak., 7th, line heavily charged.

Auroras.—Wood's Holl, Mass., 13th; Thomasville, Ga., 17th; Cambridge, Mass., "aurora regularly looked for every day at 8 p. m.; moonlight at 8 p. m. on the 5th, 6th, 10th, 29th to 31st, some clouds in the north on the 6th to 14th, obscured on the 1st, 2nd, 3rd, 4th, 7th, 8th, 9th, 11th, 15th, 17th, 21st, 22nd, 24th, 27th and 28th, clear but no aurora on 12th, 13th, 16th, 18th, 19th, 20th, 23rd and 25th;" Franklin, N. C., 23rd; Pembina, Dak., 23rd; Ft. Davis, Texas, 19th; Madison, Wis., 28th; Eastport, 1st, 21st and 24th; Boston, 24th.

OPTICAL PHENOMENA.

Solar Halos.—1st, Ia., Mass., Vt., Mich., N. Y., Cal., Dak., Minn., Kan., 2nd, Ia., Mich., Dak., Neb., Minn., Kan., Ill., Ind., Me. 3rd, Ia., Ohio, Conn., Ill., Cal., Minn., Wis., Ga. 4th, Ia., N. J., Tenn., N. C., Neb., Dak., Wis. 5th, Dak., Minn. 6th, Ind., Kan., Vt., Wis., Me., Dak., Kan. 7th, Me., N. C., Ill., Neb., N. Y., Pa., Vt., Dak., Ohio. 8th, Ia., Kan., Neb., Dak., Minn. 9th, Ia., Kan., Dak., Minn. 10th, Ia., Mich., Mo., Cal., Kan., Minn. 11th, Ia., Mass., N. J., Vt., Va., N. Y., Conn. 12th, Ia., Me., Mass., N. Y., Conn., Dak. 13th, Ia., Mass., Neb., Vt., Dak. 14th, Ia., Ill. 15th, Pa. 16th, Kan., Mich., Dak., Tenn. 17th, Ia., Me., Mass., Mich., N. Y., Vt., Conn., Ill., Pa. 18th, Ia., Dak., Neb., Minn. 19th, Vt., Dak. 20th, Me., Ohio, Ill., Wis. 21st, Ia., Me., Mass., N. Y., Ohio, Vt., Fla., Conn., Ill., Utah., Dak. 22nd, Ind., Ohio, Conn., Ill., Mo., Ia., 23rd, Ill., Wis. 24th, Mass., Ohio, N. Y. 25th, Ia., Ohio., Tex. 26th, Ia., N. Y., Utah. 27th, N. C., Mich., Ga. 28th, Ia., N. Y., Ohio, Ga. 29th, Ohio, Vt., N. J., Mich., Neb. Col., Ia., N. Y., Ga. 30th, Ia., Ill., Neb., Ohio. 31st, Ind., Ia.

Lunar Halos.—1st, Ia., Me., N. Y., Dak., Ill., Ind., Mass., Mo., Vt., Tex., Ala. Wis., Minn., Ga. 2d, Ia., Ohio, Ill., Conn., Ind., Mich., Tex., Minn. 3d, Kan., N. J., Wis., Ill. N. Y., Conn., Cal., Me., Vt., Nev., Ind. Ty., N. C., Mass. 4th, Mass., N. J., N. C., Ill., N. Y., Conn., Mo., Wis., Minn., Ohio, Tenn., Me., R. I. 5th, Md., N. J., Ill., Tenn., Conn., Me., Mout., Dak., Tex., Minn., Ind. 6th, Ind., Me., Mass., Ohio, Va., Tex., Ill., Ia., Mo., Ind. Ty., La., Wis., Mich., N. Y. 7th, Ia., Me., Md., Mass., N. J., Pa., Va., Neb., Mich., Tenn., N. Y., Conn., Ga., Col., Dak., Minn., Wis., W. Va. 8th, Ohio, Cal., Ill., Nev., Dak., Minn., Wis., Ia., Pa. 9th, Ia., N. Y., Ohio, Neb., Ind., Ind. Ty., Minn. 10th, Ill., Mass., Ohio, Va., Tex., Mich., Tenn., N. C., Conn., W. Va., Dak., Ia., Ga., Md., Ind. 11th, N. Y., Pa., Va., N. C., Mo., Tex., Wis., Ohio. 12th, Conn., Idaho, Tex., Ga., Me. 13th, Nev., Ia., Ga. 14th, Ind., N. Y., Me., Mo. 16th, Neb, 17th, Ind., N. Y. 18th, Ill. 21st, Ill. 24th, Ohio, Ill., Ia. 25th, Ill., Va. 26th, Ia., Mich., Mo., Ala., Tenn. 27th, Tex., Mo., Neb. 28th, N. J., N. Y., Va., Wis., Mo., Neb., Tex., N. M., Ga. 29th, Ind., Kan., Ohio, Va., Mich., Mo., Col., Tex., W. Va., Ga. 30th, Ill., Ind., Neb., Ohio, Ia., Cal., Minn., Wis., Mich., Ga. 31st, Ind., Me., N. J., Ohio, Ia., Mo., Dak., Minn., Tex., La. Me., Vt.

Mirage.—Genoa, Neb., 1st, 3rd; Olivet, Dak., 26th, 29th, 30th; New Bedford, Mass., 15th; Pembina, Dak., 28th; Burlington, Vt., 3rd, 5th.

MISCELLANEOUS PHENOMENA.

BOTANICAL.—*California*—Sacramento, 23rd, poplar and other trees in bud. *Florida*—Mayport, 5th, oranges were picked encased in half an inch of ice; fruit uninjured. Houston, 8th, coldest morning for years; young orange trees are injured, but the bearing trees are not hurt; 31st, oats nearly all sown and corn planting commenced. *Georgia*—Forsyth, 29th, alder bushes in full bloom, plum trees beginning to bloom. Augusta, 25th, elm trees budding; 27th, trimming trees about the city, planting English peas and early garden vegetable seeds; 29th, japonicas in full bloom in the open air; 30th, peach trees beginning to bloom. *Indiana*—Green Castle, 23rd, buds of the peach, plum and cherry are generally killed, and the peach trees are largely, if not generally, killed; wheat is in the best condition, having been well protected by the snow. Brookville, 23rd, wheat crop greatly benefitted by the heavy covering of snow; peaches killed, apples not injured. Greensburg, 23rd, wheat crop in fine condition, much benefitted by the snow. Madison, 23rd, peaches all killed, cherries and grapes have suffered much; wheat well preserved and protected. Anderson, 23rd, wheat in splendid condition; fruit generally believed uninjured. Vincennes, 23rd, fruit only slightly damaged; prospect for wheat very promising. Indianapolis, 23rd, wheat in splendid condition, abundant harvest anticipated; peaches all killed and trees somewhat damaged; apples not injured; pears—fruit all killed, trees uninjured; cherries—fruit all killed, trees uninjured; grapes—some tender varieties killed; raspberries all damaged; quinces—fruit all killed and trees badly damaged; blackberries killed to some extent; strawberries in fine condition, being protected by the snow; grass in excellent condition. Shelbyville, 23rd, fruit crop considerably injured, peaches believed destroyed; wheat much benefitted by the snow. Aurora, 22nd, wheat crop good; fruit crop much injured, especially peaches and cherries. Ft. Wayne, 23rd, fruit not as much injured as anticipated; wheat has received no damage. Vevay, 31st, peach trees, most flowering shrubs and hardy hybrid roses are killed; great quantities of potatoes frozen in pits; wheat never looked more promising and thrifty; herbaceous plants have been saved by the covering of snow. *Illinois*—Mt. Carmel, 23rd, grain crop greatly benefitted by the heavy snow, peaches entirely destroyed in some localities; apples not believed to be injured. *Iowa*—Independence, 27th, sap rising in osage orange, horse radish and parsnips sprouting. *Kansas*—Holton, 31st, peach buds in some localities reported killed. *Kentucky*—Nicholasville, 22nd, wheat and grass are uninjured, the average of the former is very large; fruit growers state that there will be no fruit of any kind worth mentioning; young trees of all kinds are dead and many large trees froze and burst; flowers in pits suffered severely. Greenup, 24th, fruit crop